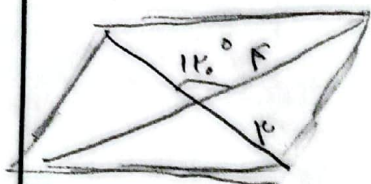
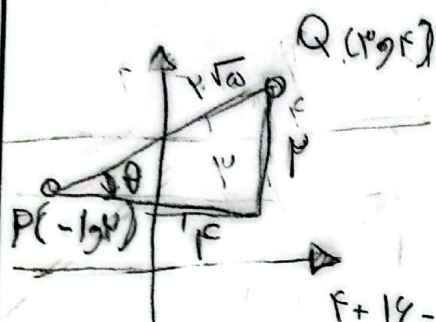


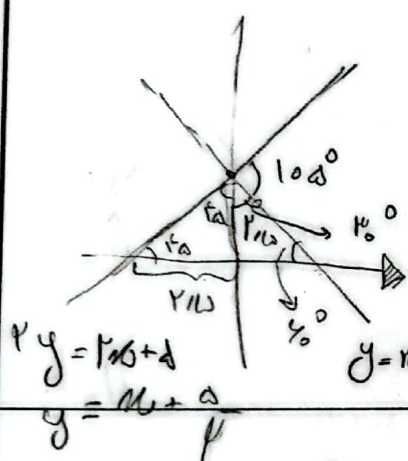
$$\frac{1}{2} \times r \times r \times \sin 110^\circ = r^2 \sqrt{\mu}$$



$$r \left(\frac{1}{r} \times \frac{r}{r} \times \frac{r}{r} \times \sin 110^\circ \right) = r^2 \sqrt{\mu}$$



$$\cos \theta = \frac{r}{r\sqrt{2}} = \frac{r}{r\sqrt{2}} = \frac{r\sqrt{2}}{2}$$



$$0 = r_0 + \frac{a}{r} \rightarrow r_0 = -\frac{a}{r}$$

$$y = 0 + \frac{a}{r} \rightarrow y = \frac{a}{r}$$

$$m = -\tan \theta_0 = -\sqrt{\mu}$$

$$y = -\sqrt{\mu}x + b$$

$$y = -\sqrt{\mu}x + 2$$

$$\cos(\pi + \theta_0) + \sin\left(\frac{\pi}{r} - \theta_0\right) - \tan\left(\frac{\pi}{r} + \theta_0\right) = -\cos \theta_0 + \sin \theta_0 - \tan \theta_0$$

$$-\tan\left(\frac{\pi}{r} + \theta_0\right) \rightarrow \tan(\theta_0) = -\sqrt{\mu}$$

$$\frac{\sin\left(\frac{\pi}{r} + \theta_0\right) + \cos\left(\frac{\pi}{r} - \theta_0\right)}{\cos\left(\frac{\pi}{r} + \theta_0\right) - \sin\left(\frac{\pi}{r} - \theta_0\right)} = \frac{\cos \theta_0 - \sin \theta_0}{-\cos \theta_0 + \sin \theta_0} = -1$$